What is claimed is:

1. A method of monitoring an optical signal to noise ratio,

wherein the degree of polarization of an optical signal transmitted in an optical transmission system is measured, and an optical signal to noise ratio of said optical signal is determined based on a measured value of said degree of polarization.

2. A method of monitoring an optical signal to noise ratio according to claim 1,

wherein an initial value of said degree of polarization of said optical signal is stored, and a change amount in the optical signal to noise ratio of said optical signal is determined according to a change amount in the measured value of said degree of polarization relative to said stored initial value.

3. A method of monitoring an optical signal to noise ratio according to claim 2,

wherein when the measured value of said degree of polarization exceeds said initial value, the measured value is again set as said initial value.

4. An optical transmission system in which an optical signal is transmitted from an optical transmission apparatus to an optical receiving apparatus via an optical transmission path, comprising:

a degree of polarization measurement section that measures the degree of polarization of said optical signal; and

an optical SNR calculation section that determines an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section.

5. An optical transmission system according to claim 4,

wherein said degree of polarization measurement section measures the degree of polarization of an optical signal propagated through said optical transmission path to be input to said optical receiving apparatus.

6. An optical transmission system according to claim 4, further comprising;

at least one optical repeater on said optical transmission path,

wherein, when an optical signal sent from said optical transmission apparatus is transmitted through a plurality of repeating intervals to be received by said optical receiving apparatus,

said degree of polarization measurement section measures the degree of polarization of at least one optical signal among an optical signal output from said optical transmission apparatus, each optical signal propagated through each repeating intervals and an optical signal input to said optical receiving apparatus.

7. An optical transmission system according to claim 4,

wherein, when a wavelength division multiplexed light containing a plurality of optical signals with different wavelengths is transmitted,

said degree of polarization measurement section measures the degrees of polarization of optical signals of respective wavelengths contained in said wavelength division multiplexed light, and

said optical signal to noise ratio calculation section determines optical signal to noise ratios corresponding to respective wavelengths based on measured values of the degrees of polarization obtained by said degree of polarization measurement section.

8. An optical transmission system according to claim 7,

wherein said degree of polarization measurement section and said optical signal to noise ratio calculation section are provided in plural number for each of the optical signals of respective wavelengths contained in said wavelength division multiplexed light.

9. An optical transmission system according to claim 7, further comprising;

a selection section that selects one optical signal from the optical signals of respective wavelengths contained in said wavelength division multiplexed light,

wherein said degree of polarization measurement section measures the degree of polarization of an optical signal selected by said selection section, and

said optical signal to noise ratio calculation section determines an optical signal to noise ratio of the optical signal selected by said selection section, based on the measured value of the degree of polarization obtained by said degree of polarization measurement section.

10. An optical transmission system according to claim 9,

wherein said selection section includes a demultiplexer demultiplexing said wavelength division multiplexed light according to wavelength, and an optical switch selecting one optical signal out of the optical signals of respective wavelengths

demultiplexed by said demultiplexer to feed it to said degree of polarization measurement section.

11. An optical transmission system according to claim 9,

wherein said selection section includes a variable wavelength optical filter extracting an optical signal of one wavelength from said wavelength division multiplexed light, to feed it to said degree of polarization measurement section.

12. An optical transmission system according to claim 4,

wherein, when there is provided an automatic polarization mode dispersion compensation apparatus including: a polarization mode dispersion compensator compensating for polarization mode dispersion generated in said optical signal; a degree of polarization measuring device measuring the degree of polarization of an optical signal whose polarization mode dispersion has been compensated by said polarization mode dispersion compensator; and a control circuit controlling a compensation amount in said polarization mode dispersion compensator, based on a measured result of said degree of polarization measuring device,

said optical signal to noise ratio calculation section determines an optical signal to noise ratio of said optical signal, based on the measured value of the degree of polarization obtained by the degree of polarization measuring device in said automatic polarization mode dispersion compensation apparatus, instead of the degree of polarization measured by said degree of polarization measurement section.

13. An optical transmission system according to claim 4, further comprising;

a control section controlling the power of an optical signal output from said optical transmission apparatus, based on the optical signal to noise ratio determined by said optical signal to noise ratio calculation section, so that the optical signal to noise ratio of the optical signal received by said optical receiving apparatus is a previously set value.

14. An optical transmission system according to claim 13,

wherein, when a wavelength division multiplexed light containing a plurality of optical signals with different wavelengths is transmitted,

said control section performs a pre-emphasis control of the optical signal power of each wavelength output from said optical transmission apparatus, based on

the optical signal to noise ratio corresponding to each wavelength determined by said optical signal to noise ratio calculation section.